REMARKS

The application the undersigned attorney filed in the U.S. Patent and Trademark Office (USPTO) was not a complete application because it did not include all pages of the English language translation of the PCT application that WIPO forwarded to the U.S. Patent and Trademark Office PCT Branch. In checking with the PCT Branch of the USPTO, the office of attorney for applicant was advised that the USPTO will consider the present application to be complete because the USPTO received the English language translation of the PCT application from WIPO. Accordingly, all amendments submitted herewith are in conformance with the English language version of the application as received by the USPTO from WIPO.

Headings have been added, as required by the Office Action.

Claims 1, 2, 4 and 5 have been amended to obviate the objection under 35 USC, 112, paragraph 2, and for clarity. To provide applicant with the protection to which he is deemed entitled, claims 9-20 have been added.

Applicant traverses the rejection of claims 1-8 as being obvious as a result of Boll et al, U.S. Patent 6,118,287, in view of Okuno, U.S. Patent 6,181,150. Initially, applicant notes that the Examiner has ignored the requirement of claim 1 for a gap to be formed between each pair of conductors in the co-planar conductor structure from the co-axial cable end to the contact end in such a way that a constant characteristic impedance is obtained from the co-axial cable end to the contact end. It is well settled that functional statements in apparatus claims cannot be ignored, particularly when the functional statement is recited as flowing from structure the claim defines. *In re Swineheart*, 439 F2d 210, 169 USPQ 226 (CCPA 1971). In the *Swinehart* case, the point of novelty was the requirement for the material to be opaque to infrared energy. It is also well established that all limitations of a claim must be considered. *In re Wilson*, 424 F2d 1382, 165 USP 494 (CCPA 1970). Based on the foregoing, the Examiner cannot ignore the statement that the characteristic impedance is constant from the co-axial cable end to the contact end as a result of a gap being formed between each pair of conductors in a co-planar conductor structure from the co-axial cable end to the contact end. Consequently, the rejection of claim 1 is improper.

In addition, the rejection of claim 1 is improper because it would not have been obvious to one of ordinary skill in the art to have modified the Boll et al structure as a result of the Okuno et al disclosure. Boll et al discloses a probe tip structure including two probe tips, for example, probe

tips 28a and 28b (Fig. 2c) or a structure including three probe tips 28a, 28b and 34 (Fig. 3). Outer probe tips 28a and 28b are connected to the outer conductor of 13 of a co-axial cable, by metal flexible members 27a and 27b, which are spaced from metal flexible member 33 that connects probe tip 34 to the center 35 of the co-axial cable. Okuno et al discloses a contact probe including probe tips 17 that extend from leads 13 carried by insulator 12. The drawing indicates the leads terminate on the insulator. Thus, neither reference discloses a co-planar conductor structure in a central section of a probe so the dielectric is between and spaced from a co-axial cable end and a contact end.

Claim 2 distinguishes over both references by requiring the gap formed between each pair of conductors in the co-planar conductor structure to be wider in the region where the conductor structure is mounted on the dielectric than in the portion of the co-planar conductor structure that is formed to be individually in space and resilient in relation to the dielectric. Such an arrangement assists in providing the constant characteristic impedance from the co-axial cable end to the contact end. Since Boll et al does not have a dielectric structure between the contact and co-axial cable ends, Boll et al is obviously irrelevant to claim 2. There is no disclosure in Okuno et al of the recited relationship. In Okuno et al, the spacing between leads 13 on insulator 12 is the same as the spacing of the leads beyond the insulator except where the leads are pointed to form contact regions with the device being tested.

Claim 4 differs from both references by requiring a face of the dielectric that contacts the co-planar conductor structure to include a metal coating that is electrically connected to the co-planar conductor structure and have substantially the same shape as the co-planar conductor structure. Again, Boll et al is irrelevant to this limitation and it does not appear to be found in Okuno et al.

Claim 6 requires the dielectric to be metallized over its full area on a side thereof remote from a face of the dielectric that contacts the co-planar conductor structure. This feature does not appear to be found in either of the applied references.

To provide applicant with the protection to which he is deemed entitled, based on the prior art of record, claims 9- 20 have been added. Claim 9, upon which claims 10-20 depend, distinguishes over the art of record by requiring the transverse spacing between the second N conductors (where N is an integer greater than one) to be different in different portions of the length of the conductors and a solid dielectric to be electromagnetically coupled with the portions of the

second conductors that have the greatest transverse spacing such that a constant characteristic impedance is obtained between first and second ends, respectively adapted to be connected to spaced co-planar, planar electrical conductors and a pair of spaced co-axial electrical conductors.

Claims 10-20 define features that further distinguish over the art of record. In particular, claim 10 requires the solid dielectric and the portions of the second conductors having the greatest transverse spacing to be located remotely from the first and second ends.

Claim 11 requires the apparatus of claim 10 to be a contact probe and the portions of the second conductors having the greatest transverse separation and the solid dielectric to be fixedly connected and portions of the second conductors between the portion having the greatest separation and the first end to be individually free in space and resilient in relation to the solid dielectric so that the second conductors at the first end form contact fingers that are relatively free in space to contact against ends of the first conductors.

Claim 12 adds to claim 9 the requirement for portions of the second conductors having the greatest transverse separation and the solid dielectric to be fixedly connected and portions of the second conductors between the portion having the greatest separation and the second end to be individually free in space and resilient in relation to the solid dielectric so that the second conductors at the second end form contact fingers that are relatively free in space to contact against ends of the first conductors.

Claim 13 says N in claim 9 is 3 so that a central one of the second conductors is adapted to be connected to the center conductor of the co-axial conductors, and an outer pair of the second conductors is adapted to be connected to the outer conductor of the co-axial conductors.

Claims 14 and 16 respectively require tapering of the transverse spacing between the second conductors in the vicinity of the first end of the second conductors of claims 9 and 11.

Claim 15 indicates the tapering of claim 14 is such that the spacing is less at the first end than at a location of the second conductors longitudinally spaced from the first end.

Claim 17 says the tapering of claim 16 is constant between the first end and the portions of the second conductors having the greatest separation.

Claim 18 requires the dielectric of claim 4 to be metallised over its full area on a side thereof remote from the face of the dielectric that contacts the co-planar conductor structure.

Claim 19 indicates each side of the dielectric of claim 8 has a face that contacts the co-planar conductor structure and includes a metal coating that is electrically connected to the co-

planar conductor structure and has substantially the same shape as the co-planar conductor structure.

Claim 20 says the dielectric of claim 19 is metallised over its full area on sides thereof remote from the faces of the dielectric that contact the co-planar conductor structure.

In view of the foregoing amendments and remarks, allowance is in order.

To the extent necessary, a petition for an extension of time under 37 C.F R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account 07-1337 and please credit any excess fees to such deposit account.

Respectfully submitted,

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